

discharged by this pump.
water is
filling the air and condensing
it, the pump clear-
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Fig. 16.—Edwards Air-pump

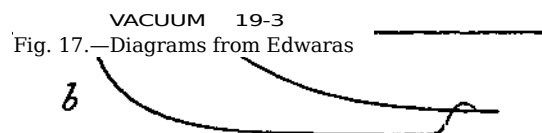
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ty
acquired being sufficient to impel
the water through the ports in the
barrel
to the top side of the bucket.
Also, as soon as these ports are
uncovered
on the down-stroke, air from the
condenser rushes into the barrel,
because
the vacuum there is
greater than that in the
condenser just before
the ports are opened.
Before the water has
time to fall down and
run back through the
ports the bucket has re-
turned and re-covered
the ports, after which
the air is compressed

and discharged through the head valves, followed by the water. The clearance space in the barrel is practically filled with water at the top of the stroke, and on the return downstroke there is very little re-expansion.

Fig. 17 illustrates the character of the indicator diagrams obtained from